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Proposed Final

ENVIRONMENTAL ASSESSMENT FOR THE DORMITORY HILL AIR FORCE BASE, UTAH

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FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED DORMITORY CONSTRUCTION AT HILL AIR FORCE BASE

Description of the Proposed Action

Hill Air Force Base (AFB) proposes to construct two dormitory buildings and an associated parking area near the Base's South Gate. The proposed site for the dormitory buildings is located northwest of the intersection of 8th Street and South Gate Avenue, and the proposed site for the parking lot is located northwest of the intersection of 11th Street and South Gate Avenue. The two 4,750-square-meter dormitory buildings would be used to house a total of 288 unaccompanied enlisted personnel. The facilities also would be used by non-military personnel during the 2002 Winter Olympic.

Summary of Environmental Impacts of the Proposed Action

Surface Water

The proposed action would have no significant impact on surface water quality in the area. There may be minor, short-term impacts due to increased sediment runoff associated with ground disturbing activities during construction. These would be kept to a minimum with the use of standard construction practices which include:

- ➤ Minimizing the size of the disturbed area associated with the construction site;
- ➤ Stockpiling removed soils and protecting them from wind and water erosion; and
- ➤ Replacing stockpiled soils where possible following construction.

Groundwater

The proposed action would have no impacts on groundwater quality. There may also be potential minor long-term impacts on surface water quality due to additional parking area.

Soils

The proposed action would have no significant impact on soils in the area. There may be minor, short-term impacts as a result of soil erosion associated with ground-disturbing activities during construction, but these would be kept to a minimum with the use of standard construction practices described above.

Vegetation

The proposed action would have no significant impact on vegetation in the area. The sites of the proposed action consist of common grasses and trees found throughout developed areas of the Base. Some trees on and adjacent to the proposed building locations may need to be trimmed or removed but this could be mitigated with replanting if necessary. No endangered or threatened vegetative species reside at the site.

Wetlands

The proposed action would have no significant impact on wetlands. Potential short-term and long-term impacts on surface water quality that may affect a wetland water drainage pond are discussed above.

Air Quality

The proposed action would have no significant impact on air quality. Short-term elevated levels of particulate matter from construction activities would be kept to a minimum with the use of appropriate dust control measures, such as watering and/or chemical stabilization. The combustion emissions from heavy-duty

construction equipment would also be short-term and would not result in exceeding air quality standards. No long-term impacts on air quality are expected.

Wildlife

The proposed action would have no adverse impact on wildlife. No threatened or endangered species reside at the site.

Archaeological and Historical Resources

Currently, there are no known cultural resources located at the proposed dormitory or parking lot locations. A qualified archaeologist will be present to monitor any preliminary ground disturbing activities. If any cultural materials are observed in the area during any phase of construction, action in the immediate vicinity will stop, and the inadvertent discovery procedures shall be implemented with direction from the Hill AFB Cultural Resource Manager (CRM), and in accordance with the Hill AFB Cultural Resource Management Plan.

Land Use

The proposed action would have no adverse impact on land use. The location of the proposed action is within a residential area of the Base. Construction of the dormitory buildings would require relocating two equipment trailers currently on the proposed site. Construction of the parking lot would require some modification to the ball field adjacent to the proposed site. The proposed action would not have significant impact on future land use on Base.

Noise

The proposed action would have no significant impact on noise levels in the area. Short-term construction noise would occur during daylight hours. No long-term noise impacts are expected.

Health and Safety

Worker health and safety hazards present during the proposed action would be typical of construction activities. All Occupational Safety and Health Administration (OSHA) requirements would be followed during construction work to minimize the potential risks. No long-term impact is expected.

Transportation

The proposed action would result in increased vehicular and pedestrian traffic to the proposed sites but this is not expected to be significant. The existing employee parking south of the proposed dormitory would be used as dormitory parking and the new parking area would become an employee parking lot.

Socioeconomic Conditions

The proposed action would not impact social economics in the surrounding area. Morale and productivity of unaccompanied enlisted personnel may increase with proper housing.

Conclusion

Based on the results of this Environmental Assessment, no significant adverse impacts are expected from the proposed construction of the dormitory and associated parking lot. Therefore, in accordance with Air Force Instruction 32-7061, a Finding of No Significant Impact (FONSI) may be issued. Preparation of an Environmental Impact Statement (EIS) is not necessary.

Hill Air Force Base, Utah

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Authorized Signature Date

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EXECUTIVE SUMMARY

In 1999, the Air Force Dormitory Master Plan indicated that there is a shortage of dormitories for unaccompanied enlisted personnel at Hill Air Force Base (AFB). Currently, enlisted personnel are given housing allowances to live off-base. However, the continuous increase in housing costs has made living off-base difficult for unaccompanied enlisted personnel. Hill AFB proposes to construct two dormitory buildings and an associated parking area to accommodate 288 unaccompanied enlisted personnel. The buildings would be built in two phases, and each 4,750-square-meter building would consist of 144 units. One building is planned for construction in fiscal year 2001 and the second is planned for fiscal year 2004. A parking lot would also be constructed in two phases to accommodate the employee vehicles displaced by the dormitory parking.

Air Force Instruction (AFI) 32-7061 requires that an Environmental Assessment (EA) be completed for all proposed Air Force actions that potentially could have adverse environmental impacts. This EA analyzes the potential environmental impacts of the proposed action, the alternative actions, and the "no action" alternative.

Section 1 of this report presents the purpose and need for the proposed action. It also includes background information on the proposed action location.

Section 2 describes the proposed action and the alternative actions that were considered. Selection criteria for evaluating reasonable alternatives are also presented in this section.

Section 3 describes the existing environmental conditions at the site of the proposed action.

Section 4 identifies the anticipated environmental impacts of the proposed action and the no action alternative.

Based on the findings of this EA, no significant environmental impacts are expected from constructing the dormitory and associated parking area. A Finding of No Significant Impact (FONSI) statement has been prepared and is included at the beginning of this report. Preparation of an Environmental Impact Statement (EIS) is not necessary.

Section 1
PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Background

Hill Air Force Base (AFB) is located in northern Utah about 25 miles north of Salt Lake City and approximately 5 miles south of Ogden (Figure 1-1). It was established by congressional order in 1935 and constructed adjacent to the Ogden Army Arsenal beginning in 1940. In 1955, the Ogden Army Arsenal was transferred from the U.S. Army to the U.S. Air Force, doubling the size of the Base to a total of almost 6,700 acres and 1,171 buildings. The mission of Hill AFB centers on the maintenance and management of aircraft and missiles. Base industrial facilities support aircraft, missile, vehicle, and railroad engine maintenance and repair operations.

Employment in Davis and Weber Counties is heavily based on jobs provided by Hill AFB. The Base currently employs more than 11,300 civilian and military personnel. Of those military personnel stationed at Hill AFB, 964 married personnel live on-base with their families, 573 unmarried personnel live on-base in dormitories, and the remaining 3385 military personnel live off-base.

Hill AFB proposes to construct two 4,750-square-meter dormitories to house 288 unaccompanied enlisted personnel. The dormitories would be constructed in two phases, the first beginning in fiscal year (FY) 2001 and the second beginning in FY 2004. Existing employee parking adjacent to the new dormitories would become dormitory resident parking. Therefore, the proposed action includes construction of a new parking lot in the vicinity to accommodate approximately 330 employee vehicles. Figure 1-1 shows the general location of the proposed action at Hill AFB. Site photographs are included in Appendix A.

1.2 Need for the Proposed Action

A major Air Force objective is to provide unaccompanied enlisted personnel with housing conducive to their rest, relaxation and personal well being. Currently, housing allowances are given to enlisted personnel living off-base. The dramatic increase in housing costs in areas surrounding Hill AFB has made living off-base uneconomical for unaccompanied enlisted personnel. Due to increasing population trends in areas surrounding Hill AFB (State of Utah, 2000), the cost of housing is expected to increase in the future.

In 1999, the Air Force Dormitory Master Plan Assessment Program identified a shortage of 286 dormitory rooms at Hill AFB for unaccompanied enlisted personnel. To address this housing shortage, Hill AFB is proposing to build two new dormitories to house unaccompanied enlisted personnel and to add new associated parking spaces. In addition, the first dormitory would be available to house nonmilitary personnel during the 2002 Winter Olympics.

1.3 Applicable Requirements

There are several regulatory environmental programs that apply to the proposed action. These program requirements are described below.

1.3.1 National Environmental Policy Act Requirements for Air Force Actions

The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to analyze the potential environmental impacts of a proposed action and to evaluate reasonable alternative actions. The results of the analyses are used to make decisions or recommendations on whether and how to proceed with those actions. Air Force Instruction (AFI) 32-7061 *Environmental Impact Analysis Process* describes the process of preparing an EA for proposed actions on Air Force property. Based on the EA, either a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS) is prepared. This EA looks

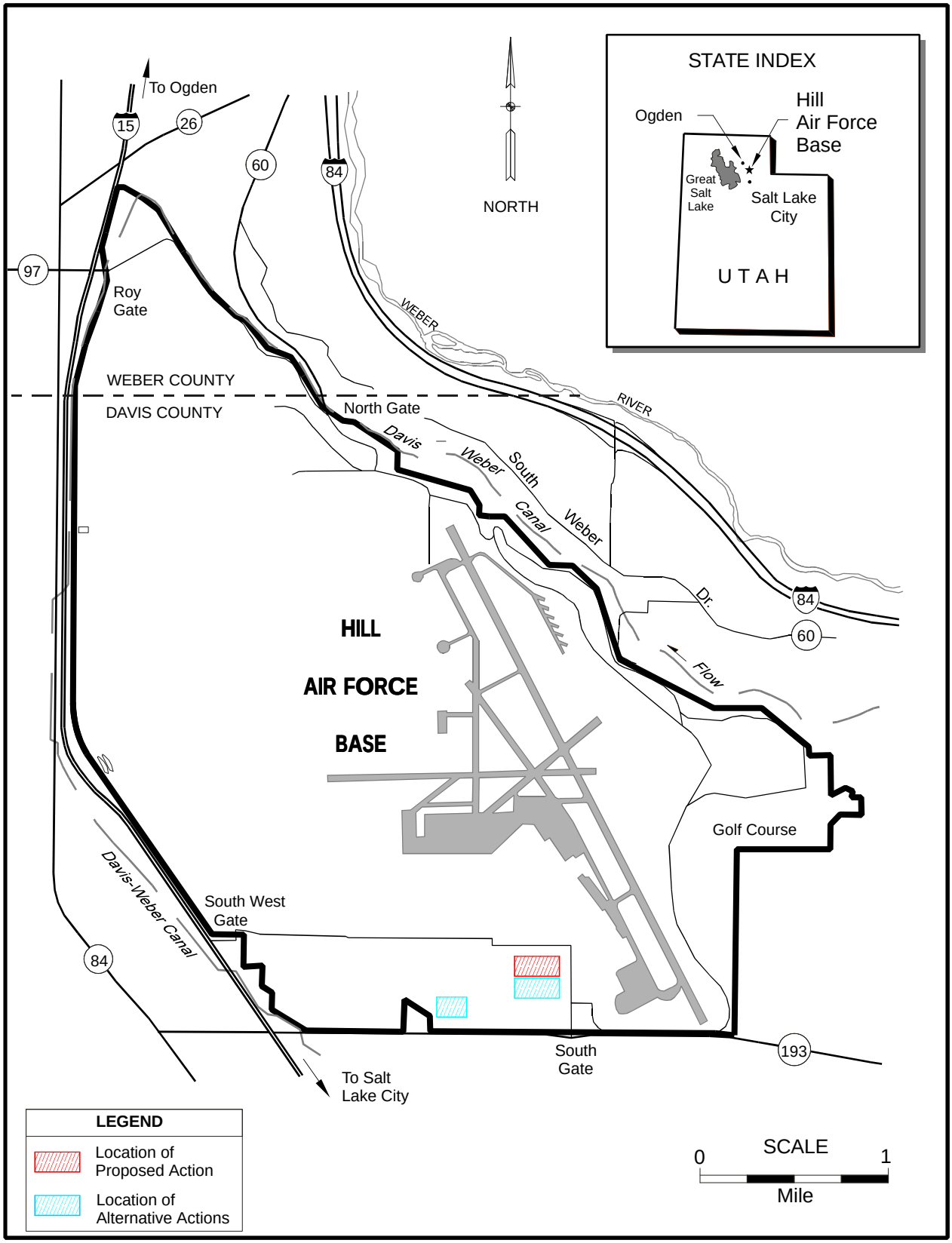

Figure 1-1. Location of Proposed Action

at the environmental impacts of the proposed action, the alternative actions, and the "no action" alternative. Both the AFI 32-7061 guidance and the implementing regulations of NEPA (40 CFR Part 1500) were followed in preparing this EA.

1.3.2 Air Quality Requirements

The Utah Air Quality Regulations, found in the *Utah Administrative Code* (UAC) R307, apply to the proposed construction of the dormitory. The proposed action would occur in an area that has been classified as "maintenance" for ozone. Therefore, the federal conformity requirements at 40 *Code of Federal Regulations* (CFR) 93.153 require a conformity determination to be completed, unless it can be shown the increased emissions are *de minimis* or the action is specifically exempted. Appendix B includes emissions estimates showing that construction and operation activities associated with the proposed action would have potential emissions well below the appropriate *de minimis* values; therefore, no conformity determination is required.

1.4 Scope and Organization of This Document

The remainder of this document is organized as follows:

- Section 2 provides a description of the selection criteria, the proposed action, the alternatives, and the "no action" alternative;
- Section 3 describes the existing environmental conditions at Hill AFB;
- Section 4 identifies the potential environmental consequences associated with implementing the proposed alternatives;
- Section 5 presents a list of the preparers and persons contacted for information used in the report;
- Section 6 includes a list of references;
- Appendix A contains site photographs of the proposed and alternative action locations; and
- Appendix B contains an Air Conformity Analysis screening.

Section 2
DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section lists the criteria for selecting reasonable alternatives. The proposed action and the alternative actions are identified, summarized, and evaluated against these criteria. Alternatives that did not meet the selection criteria are eliminated from further consideration.

2.1 Selection Criteria

The areas at Hill AFB were evaluated to determine acceptable sites for the two dormitory buildings and associated parking. The following site selection criteria were used to evaluate possible alternatives for the proposed action. To be considered, the alternative location should:

- Be large enough to accommodate the dormitory buildings and associated parking;
- Be located in a residential area; and
- Be close to community support facilities such as, Base Exchange, medical, commissary, and recreational facilities.

Three sites located at the south end of Hill AFB were identified that met the site selection criteria. The alternative locations for the dormitory are shown in Figure 2-1.

2.2 Alternative I (Proposed Action): Construction of Dormitory Near Existing Dormitories

The proposed action is to construct two new dormitory buildings next to existing dormitories close to the Base's South Gate. The proposed site for the dormitory buildings is near the northwest corner of 8th Street and South Gate Avenue, and the proposed site for the parking area is near the northwest corner of 11th Street and South Gate Avenue. The proposed floor plan for each dormitory unit is shown in Figure 2-2. The proposed action would consist of the following:

- Construction of two new 4,750-square-meter buildings, Dormitory Building #1 and Dormitory Building #2, each with 144 units;
- Construction of a parking lot to accommodate approximately 330 vehicles to replace existing employee parking that would be used as dormitory parking;
- Installation of a security fence around Dormitory Building #2, providing a minimum of 80-foot clear space between the fence and the building, to comply with Anti-Terrorism/Force Protection requirements that go into effect in 2002 (not required for Building #1);
- Construction of a security gate at the entrance of Dormitory Building #2 that would be under Anti-Terrorism/Force Protection measures; and
- Landscaping of dormitory grounds and parking area after construction.

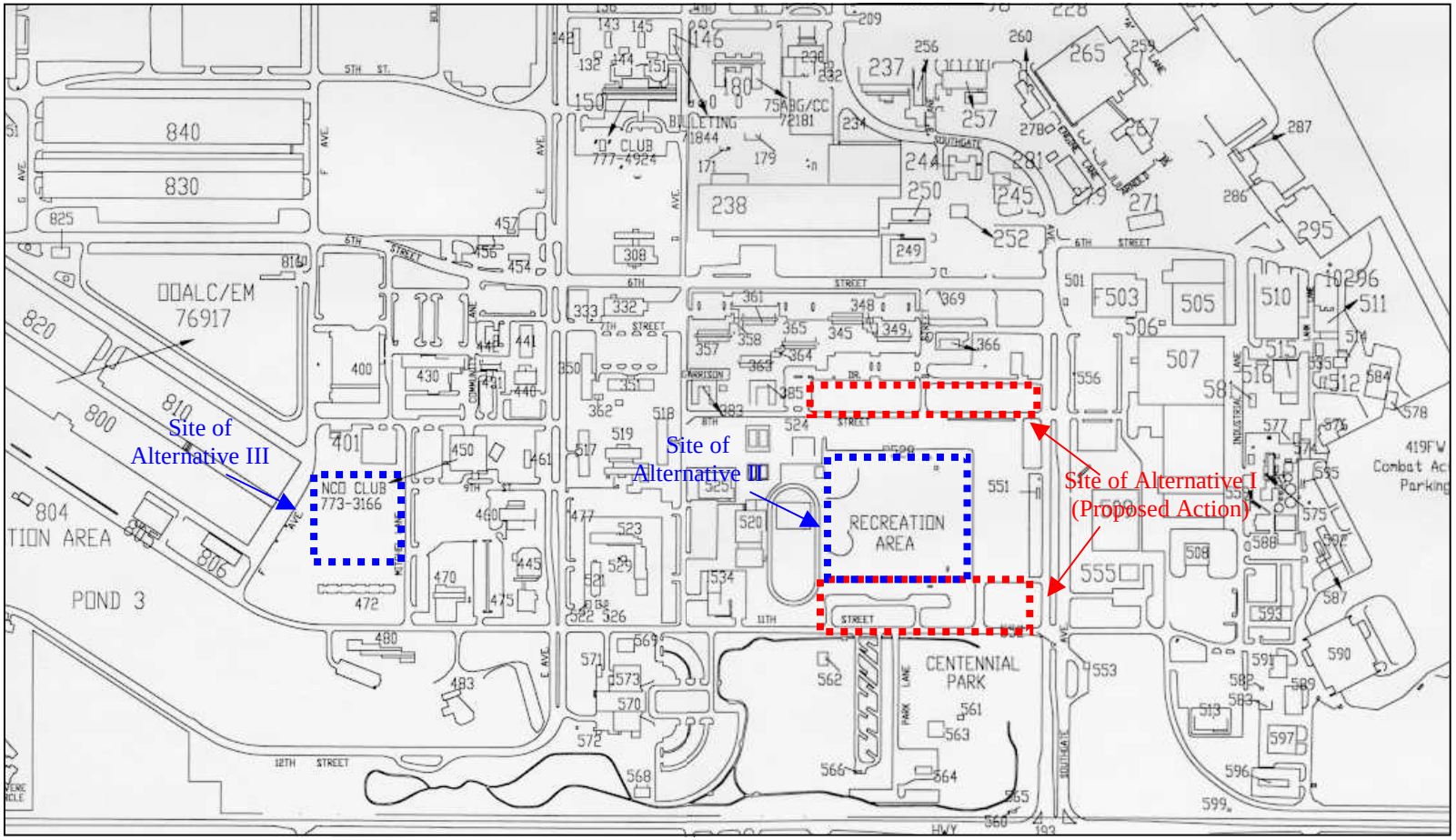

Figure 2-1. Detailed Area of Proposed and Alternative Actions

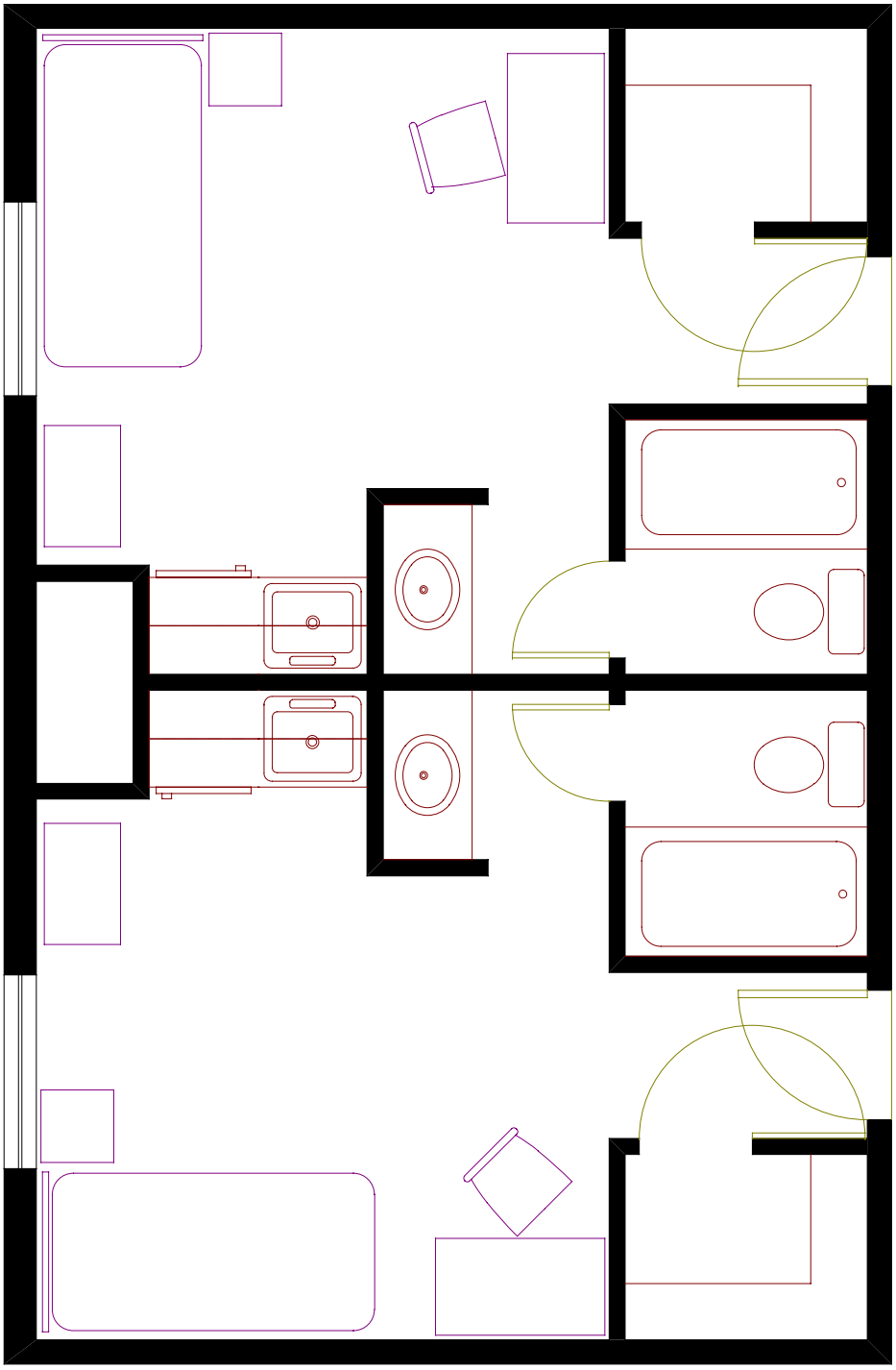

Figure 2-2. Proposed Floor Plan for Dormitory Units

The dormitory buildings and associated parking area would be constructed in two phases. Construction of Building #1 (west-side building) is planned for FY 2001 and construction of Building #2 (east-side building) is planned for FY 2004. The two buildings would be used to house a total of 288 unaccompanied enlisted personnel. The existing employee parking across the street (south side of 8th Street) would be used as dormitory parking. The new parking area would become the replacement employee parking and would be constructed in two phases, as needed. Building #1 and associated parking would also be used during the 2002 Winter Olympic Games.

Currently, there are two portable contractor construction trailers on the proposed dormitory site. These trailers would be removed after completion of a present construction project. The proposed site of the parking lot is adjacent to a ball field and construction of the parking lot would require some modification to the ball field. However, there are plans outside this project, to redesign the entire ball field.

2.3 Alternative II: Construction of Dormitory on Existing Ball Field

Alternative II consists of constructing the same two dormitory buildings, associated building dormitory parking, and Anti-Terrorism/Force Protection measures, as described above, on an existing ball field near the Base's South Gate. The site is located near the northwest corner of 11th Street and South Gate Avenue. This site is large enough to accommodate both the dormitory buildings and the associated dormitory parking area. Alternative II would require relocation of the ball field to a possible site east of the runway, which would result in additional costs for construction of a new ball field. The possible new location for the ball field is far from the dormitories and would be inconvenient for users. Also, users of the new ball field might experience high noise levels due to the site's close proximity to the runway.

2.4 Alternative III: Construction of Dormitory South of Base Exchange

Alternative III consists of constructing the same two dormitory buildings with similar associated structures and measures as described above, on an empty field south of the Base Exchange building. The site is located near the northwest corner of 11th Street and Mitchel Lane and would accommodate both the dormitory buildings and associated parking. This alternate site is approximately a mile away from most working areas for enlisted personnel. This location could be considered far from the place of work for those enlisted personnel without vehicles. A portable contractor construction trailer, currently on site, would be removed after completion of a present construction project.

2.5 "No Action" Alternative

Under the "no action" alternative, the dormitory buildings would not be constructed. Unaccompanied enlisted personnel would continue to receive housing allowances to live off-base. However, with the increase in housing costs, airmen may have to live in substandard housing. Without suitable living quarters, degradation of morale, productivity, and career satisfaction for unaccompanied enlisted personnel can be expected. A reduction in productivity would negatively affect the primary mission of Hill AFB.

Section 3
DESCRIPTION OF EXISTING ENVIRONMENT

This section describes the existing environmental conditions near the locations of the proposed action and alternative actions. This information is based on available documentation as well as site visits conducted in October and November of 2000. Photographs documenting existing conditions are located in Appendix A.

3.1 Surface Water

There are no lakes, rivers, creeks, or other surface waters in the nearby vicinity of the site for the proposed action or Alternative II. Pond #1, a manmade drainage pond, is located approximately 0.5 miles southeast of the proposed action site and the Alternative II site. Pond #3, also a manmade drainage pond, is less than 0.25 miles southwest of the location of Alternative III. These ponds were constructed to control surface runoff in the area and have been classified as wetlands (USAF, 1989).

3.2 Groundwater

Hill AFB is located within the Weber Delta Hydrologic District. The Weber Delta district contains two artesian aquifers (the Delta and Sunset) and a shallow, overlying water table aquifer (Feth et al., 1966). Perched aquifer zones also occur locally in the shallow aquifer system. The deepest of the artesian aquifers, the Delta Aquifer, extends from depths of approximately 500 to 700 feet below ground surface (bgs). This aquifer represents the major source of groundwater in the district. The Sunset Aquifer overlies the Delta Aquifer, extending from 250 to 400 feet bgs. Recharge to the Sunset and Delta aquifers generally occurs as infiltration at the alluvial wedge along the Wasatch Mountains. Regionally, groundwater flows to the west from the Wasatch Mountains to the Great Salt Lake. Both the Delta and Sunset aquifers are sources of drinking water for communities located along the Wasatch Front.

A shallow aquifer system (i.e., water table aquifer) overlies the Sunset Aquifer. The shallow aquifer is hydraulically separated from the underlying artesian aquifers by Bonneville Age lacustrine deposits. Locally, groundwater flows to the southwest. Recharge to the shallow aquifer system occurs by direct infiltration from precipitation, seepage from streams and canals, and irrigation.

Beginning in 1986, investigative fieldwork was conducted at Hill AFB for the Installation Restoration Program (IRP) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) efforts at the Base. As part of these efforts, nine operable units (OUs) have been designated at Hill AFB. Groundwater beneath the locations of the proposed action and Alternative II is part of the OU8 contaminant plume. Contaminants of concern in the groundwater include trichloroethene (TCE), perchloroethelene (PCE), dichloroethene (DCE), trichloroethane (TCA), and hexavalent chromium. Concentrations of TCE in the groundwater beneath the proposed site range from 10 to 1,000 micrograms per liter (µg/L). There is no known groundwater contamination beneath the site for Alternative III.

3.3 Geology and Soils

The Weber Delta Hydrologic District comprises unconsolidated to poorly consolidated sediment deposits in a structurally controlled basin of consolidated rocks (Feth et al., 1966). These sediments are of alluvial and lacustrine origin. Recent Age deposits, consisting of a confining clay, crop out to the southwest of Hill AFB. Within this region, the deposits are approximately 35 feet thick. Pleistocene Lake Bonneville deposits, referred to as the Lake Bonneville Group, underlie the Recent Age deposits. A regional formation, known as the Provo Formation, consists of gravel and sand and is exposed over much of Hill AFB. The valley fill material in the area comprises interlayered lenticular strata of gravel, sand, silt, and clay.

Soils within the vicinity of Hill AFB generally consist of sandy loam. Soil types present at Hill AFB consist of Timpanogos Sandy Loam, Kilburn Gravelly Sandy Loam, and Francis Loamy Sand. Infiltration rates for these soil types are relatively high, ranging from 3.5 to 6.5 inches per hour.

3.4 Vegetation

Hill AFB is located at the lower limits of what is known as the Sagebrush Zone, a vegetative classification dominated by large sagebrush and various grasses (USAF, 1989). The well-drained soils near the Base make the vegetative climate drier than precipitation rates might otherwise support. Vegetation in the area is composed of native shrubs, native grasses, and numerous introduced species of decorative forbs and grasses. The sites for the proposed action and alternative actions are located in developed areas on-base and consist of common grasses and trees. Vegetation in the area of the proposed action and alternative actions is watered, treated, and mowed regularly.

3.5 Wetlands

There are no wetlands located within or adjacent to the proposed action site. Pond #1, classified as a wetland, is located approximately 0.5 miles southeast of the sites for the proposed action and Alternative II. Pond #3, also a wetland, is less than 0.25 miles southwest of the site for Alternative III.

3.6 Air Quality

The proposed action is located in Davis County. Air quality in the vicinity is influenced by vehicular emissions, aircraft operations, and other on- and off-Base industrial emissions (USAF, 1989). Davis County has been classified by the Utah Division of Air Quality as a "maintenance" area for ozone. The county is in attainment with the National Ambient Air Quality Standards (NAAQS) for all other criteria pollutants, including particulate matter (PM_{10}), sulfur oxides (SOx), nitrogen oxide (NOx), lead, and carbon monoxide (CO).

3.7 Wildlife

There are no known "threatened" or "endangered" species inhabiting Hill AFB or nearby areas. Similarly, there are no animals on Hill AFB or in nearby areas classified as "declining" or "limited." Peregrine falcons and bald eagles, categorized as "endangered," frequently hunt on and near Hill AFB for rabbits and rodents (USAF, 1989). Bald eagles may be winter residents on the shores of the Weber River, located several miles from the proposed action.

3.8 Archaeological and Historical Resources

Currently, no cultural resources have been identified within the areas of the proposed action and alternative actions.

3.9 Land Use

The dormitory site under the proposed action is located near existing dormitories just off South Gate Avenue and north of 8th Street. The two temporary contractor trailers on the proposed dormitory site would be removed after completion of a present construction project. The proposed parking lot site is south of the proposed dormitory location, between the ball fields and 11th Street. Both proposed sites are in a residential land use area and are currently grass fields.

The site of Alternative II is currently a ball field near the corner of 11th Street and South Gate Avenue and is part of the recreation area. This site is adjacent to a track field and is surrounded on two sides by parking areas.

The site of Alternative III is currently an empty field near the corner of 11th Street and Mitchel Lane. There is temporary family housing for military personnel just south of the site. A veterinary clinic and the Base Exchange building are north of the site.

3.10 Noise

Major sources of noise in the area of the proposed action and the alternative actions include aircraft take-off and landing, and vehicle traffic on roads surrounding the site.

3.11 Health and Safety

Currently, there are no health and safety issues related to the proposed site or the alternative sites.

3.12 Transportation

Access to the Base is provided via five gates each with good to excellent highway access. Moving counterclockwise from the north and west, the Roy and West Gates both offer access to Utah State Route 126 and Interstate Highway 15, major north-south thoroughfares. The Southwest and South Gates are accessed from Utah State Route 193, a major east-west route providing access to Interstate 15 west of the Base, and U.S. 89 east of the Base. In addition, the Southwest Gate is accessed from State Route 126, a primary street through the cities of Clearfield, Sunset, and Roy. The North Gate offers access to Utah State Route 168, and from there to Interstate 84.

The Base currently has adequate collector and local roads to meet the existing, as well as short-term, transportation needs. However, on-Base traffic congestion is a problem, especially during peak times in the morning and late afternoon. The primary cause of these congestion problems include poor arterial roadways and gate logistics, inadequate signaling, peak volumes, and heavy pedestrian traffic. Additionally, lack of adequate thoroughfare roadways result in the channeling of all traffic through unrelated and busy occupational areas.

In general, parking in administrative areas is limited. Rapid growth and restructuring of facilities on the Base have resulted in concentrations of employees in areas that do not have adequate parking. In industrial areas, however, parking is generally underutilized. Demolishing buildings and paving areas has generated adequate parking capacity.

3.13 Socioeconomic Conditions

Hill AFB lies within the counties of Davis and Weber, and is surrounded by the communities of Clearfield, Layton, Sunset, Clinton, Roy, South Weber, and Riverdale. This area makes up part of the Wasatch Front, which includes the counties of Davis, Weber, Morgan, Salt Lake, Utah, and Tooele. The area is located along the western slope of the Wasatch Mountains.

The estimated population of Davis and Weber Counties in 1998 was 412,035, an increase of 19% since 1990 (State of Utah, 2000). Total employment along the Wasatch Front has been growing at a pace similar to the population increase of Davis and Weber Counties, with a 30% job increase from 1990 to 1998. Government agencies (federal, state, and local) provide 25% of the employment in Davis County, and 21% of employment in Weber County in 1998. The economic base of these two counties heavily depends on federal employment, specifically Hill AFB, which currently employs 11,352 military and civilian personnel.

Many military personnel stationed at Hill AFB work and live on-base. Currently, there are a total of 1,537 military personnel living on-base either with their families or in dormitories. Social factors, such as good housing, recreation, and other community services, can provide personnel with a positive attitude toward their job. It has been identified there is insufficient on-base housing for unaccompanied enlisted personnel at Hill AFB.

Section 4
ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVES

This section identifies potential environmental impacts of the proposed action and the "no action" alternative at Hill AFB. Anticipated impacts are summarized in Table 4-1. As shown in the table, no short-term or long-term significant adverse environmental impacts are anticipated from the proposed action. Only minor short-term impacts due to construction activities are expected. Under the "no action" alternative, Hill AFB personnel would continue to reside in overcrowded existing dormitories or live in off-Base housing.

4.1 Surface Water

Construction activities associated with the proposed action and the two alternative actions would include disturbance of ground cover and exposing the underlying soil, thereby increasing the potential for runoff and sedimentation in local stormwater retention ponds. However, these impacts would be temporary, occurring only during construction. Standard construction practices would be implemented to minimize potential short-term impacts. These include:

- ➤ Minimizing the size of the disturbed area associated with the construction site;
- ➤ Stockpiling all removed soils and protecting them from wind and water erosion; and
- ➤ Replacing or removing stockpiled soils following construction.

Long-term surface water impacts anticipated for the proposed action and the two alternative actions could include a potential slight degradation in surface water quality caused by surface run-off from the new parking area. Wastewater from the new dormitory would be discharged to the local sanitary sewer.

Under the "no action" alternative, there would be no impact to surface waters.

4.2 Groundwater

There are no expected impacts to groundwater from the proposed action or the two alternative actions. No underground storage tanks would be installed. The dormitory buildings would not include basements and would be constructed on a sealed, concrete foundation. The parking area would be an asphalt paved lot.

The "no action" alternative would have no impact on groundwater.

4.3 Geology and Soils

Impacts on soils in the areas of the proposed action and the two alternative actions would be limited to construction activities associated with the proposed action. These activities would increase the potential for soil to be carried away with surface water runoff. To minimize this potential, standard construction practices, discussed in Section 4.1, would be implemented. Current data indicates that there is no soil contamination at the locations of the proposed action or the two alternative actions. If, during construction, any stained soil and unusual odors are discovered, work would stop and the Environmental Management Restoration Division at Hill AFB would be contacted to assess the situation.

The "no action" alternative would have no impact on soils in the area.

Table 4-1
Anticipated Environmental Consequences

Environmental Issues	Impacts from Alternative I (Proposed Action)	Impacts from Alternative II	Impacts from Alternative III	Impacts from No-Action Alternative
Surface Water	Potential short-term increase in erosion and sediment run-off in the storm drainage system from ground-disturbing activities. Potential minor long-term degradation in surface water quality due to additional surface run-off from parking area.	Potential short-term increase in erosion and sediment run-off in the storm drainage system from ground-disturbing activities. Potential minor long-term degradation in surface water quality due to additional surface run-off from parking area.	Potential short-term increase in erosion and sediment run-off in the storm drainage system from ground-disturbing activities. Potential minor long-term degradation in surface water quality due to additional surface run-off from parking area.	No anticipated impact.
Groundwater	No anticipated impact.	No anticipated impact.	No anticipated impact.	No anticipated impact.
Geology and Soils	Potential short-term increase in soil run-off from ground-disturbing activities. No anticipated long-term impact.	Potential short-term increase in soil run-off from ground-disturbing activities. No anticipated long-term impact.	Potential short-term increase in soil run-off from ground-disturbing activities. No anticipated long-term impact.	No anticipated impact.
Vegetation	Existing trees will be removed during construction, but site will be re-vegetated where possible. No long-term adverse impact is anticipated.	Site is currently a ball field. No long-term adverse impact is anticipated.	Site is currently an empty field No long-term adverse impact is anticipated.	No anticipated impact.
Wetlands/ Floodplains	Nearest wetland is a man-made drainage pond 0.5 mile away. Impacts to wetlands are the same as impact to surface water.	Nearest wetland is a man-made drainage pond 0.5 mile away. Impacts to wetlands are the same as impact to surface water.	Nearest wetland is a man-made drainage pond less than 0.25 mile southwest of the site. Impacts to wetlands are the same as impact to surface water.	No anticipated impact.
Air Quality	Short-term fugitive dust and equipment emissions during construction activities. Below de minimis increases in NOx, VOC, and PM10 emissions. No long-term impact is anticipated.	Short-term fugitive dust and equipment emissions during construction activities. Below de minimis increases in NOx, VOC, and PM10 emissions. No long-term impact is anticipated.	Short-term fugitive dust and equipment emissions during construction activities. Below de minimis increases in NOx, VOC, and PM10 emissions. No long-term impact is anticipated.	No anticipated impact.
Wildlife	No anticipated impact.	No anticipated impact.	No anticipated impact.	No anticipated impact.

Table 4-1 (Cont.)

Environmental Issues	Impacts from Alternative I (Proposed Action)	Impacts from Alternative II	Impacts from Alternative III	Impacts from No-Action Alternative
Archeological/ Historical	No anticipated impacts. If any cultural materials are found, work will stop until proper assessment of the discover is made by a qualified archaeologist.	No anticipated impacts. If any cultural materials are found, work will stop until proper assessment of the discover is made by a qualified archaeologist.	No anticipated impacts. If any cultural materials are found, work will stop until proper assessment of the discover is made by a qualified archaeologist.	No anticipated impact.
Land Use	The ball field needs to be modified to accommodate the proposed parking lot. The changes are not considered adverse impacts to future land use.	The dormitory and parking area would replace the ball field. Land use will change from recreational to housing.	The site is an empty field. No anticipated impact.	No anticipated impact.
Noise	Short-term construction noise. Slight increase in traffic noise due to potential increase in social activities.	Short-term construction noise. Slight increase in traffic noise due to potential increase in social activities.	Short-term construction noise. Slight increase in traffic noise due to potential increase in social activities.	No anticipated impact.
Health and Safety	Short-term hazards related to construction activities. No long-term impact.	Short-term hazards related to construction activities. No long-term impact.	Short-term hazards related to construction activities. No long-term impact.	No anticipated impact.
Transportation	Slight increase in vehicular and pedestrian traffic to the proposed dormitory location with slight decrease in traffic congestion near entrances of Base. No significant long-term adverse impact.	Slight increase in vehicular and pedestrian traffic to the proposed dormitory location with slight decrease in traffic congestion near entrances of Base. No significant long-term adverse impact.	Slight increase in vehicular and pedestrian traffic to the proposed dormitory location with slight decrease in traffic congestion near entrances of Base. No significant long-term adverse impact.	No anticipated impact.
Socioeconomic Conditions	Improved housing conditions for enlisted unaccompanied personnel.	Improved housing conditions for enlisted unaccompanied personnel. This alternative includes loss of a recreational facility, the ball field, near the dormitories. Additional funding would be required for construction of a new ball.	Improved housing conditions for enlisted unaccompanied personnel. Location of site is inconvenient for personnel without transportation.	Substandard housing conditions may affect morale and productivity.
Environmental Justice	No anticipated impact.	No anticipated impact.	No anticipated impact.	No anticipated impact.

4.4 Vegetation

The proposed action and the two alternative actions would have no significant impact on vegetation in the surrounding areas. The site of the proposed action is an empty grass field with trees, and the site of Alternative II is a ball field with some grass coverings and a few trees. The grass and trees would be removed for the construction of the dormitory and parking lot as part of the proposed action and Alternative II. After construction, the remaining disturbed areas would be re-vegetated consistent with surrounding living areas to provide an aesthetically pleasing atmosphere, and to prevent erosion. The site of Alternative III is an empty grass field with no trees. The grass field would be disturbed during construction, but the area would be re-vegetated.

The "no action" alternative would have no impact on vegetation.

4.5 Wetlands

Potential short-term and long-term impacts of the proposed action and the two alternative actions on drainage ponds (Pond #1 and Pond #3) are discussed in Section 4.1. No significant impact on wetlands is expected from the proposed action or the two alternatives.

The "no action" alternative would have no impact on wetlands.

4.6 Air Quality

As a federal facility in a designated "maintenance" area for ozone, any actions at Hill AFB must undergo review in accordance with the Federal Conformity Rule (40 CFR 93.153). As shown below, the estimated increased emissions of VOCs and NO_x from the proposed action would not exceed the *de minimis* levels in the Conformity Rule (i.e., 50 tons per year for VOCs and 100 tons per year for NO_x). As a result, the Air Force is not required to prepare a full conformity determination. Appendix B contains the air emissions calculations for the activities associated with the construction of the dormitory buildings and associated parking in proposed action and alternative actions.

There would be no long-term impacts to air quality associated with the proposed and alternative actions. Construction activities associated with the proposed action and the two alternative actions would result in some short-term emissions of regulated pollutants that would only occur during the construction period. These emissions would include particulate matter from fugitive dust, criteria pollutants from fuel-fired construction equipment, and VOCs from architectural coatings. However, these emissions and related impacts would be temporary and less than significant in mass, concentrations, and duration. As shown in Appendix B, construction equipment would not be expected to emit greater than 5 tons of VOC or greater than 57 tons of NO_x. Because the new parking area is for less than 350 spaces, it is exempt from notice of intent and approval order requirements (UAC R307-413-4(5)).

Construction-related dust would be short-term. The Utah Administrative Rules, R307-309-4 and R307-309-6, apply to construction activities on land areas over ¼ acre in size. It requires implementing measures to prevent fugitive particulate matter from becoming airborne. Such measures may include:

- Planting vegetative cover;
- Providing synthetic cover;
- Watering and/or providing chemical stabilization; and/or
- Providing wind breaks.

These measures or others would be implemented during the construction process as appropriate.

The "no action" alternative would have no impact on air quality.

4.7 Wildlife

Due to the lack of protected species or habitat at the proposed and alternative action sites, there are no expected significant impacts on wildlife due to the proposed action or the two alternative actions. Likewise, there are no significant impacts on wildlife associated with the "no action" alternative.

4.8 Archaeological and Historical Resources

Currently, there are no known cultural resources located at the proposed dormitory or parking lot locations. A qualified archaeologist will be present to monitor any preliminary ground disturbing activities. If any cultural materials are observed in the area during any phase of construction, actions will stop in the immediate vicinity, and the inadvertent discovery procedures shall be implemented with direction from the Hill AFB Cultural Resource Manager (CRM), and in accordance with the Hill AFB Cultural Resource Management Plan.

The "no action" alternative would have no impact on archaeological or historic resources.

4.9 Land Use

The proposed action would not adversely affect future land use at Hill AFB. The proposed dormitory site is two empty fields located near existing dormitories. Construction of the building would require the removal of temporary contractor trailers. The proposed parking lot site is also an empty field adjacent to the ball fields and near existing parking. The ball field needs to be slightly modified to accommodate the proposed parking lot. Addition of the proposed dormitory and parking would not significantly affect future land use of adjacent properties.

Alternative II would affect land use at Hill AFB because it involves building the dormitory buildings and associated parking area on an existing ball field. This alternative action would change the current land use from recreational to housing, which may potentially impact future land use of the adjacent properties. Loss of this ball field would require construction of a new ball field elsewhere.

Alternative III would not affect the future land use at Hill AFB. The proposed site for this action is currently an empty field next to temporary family housing and a veterinary clinic. The site is large enough to accommodate the dormitory and associated parking, and would not change the land use of adjacent properties.

The "no action" alternative would result in no land use impacts.

4.10 Noise

Noise from the proposed action and the two alternative actions would consist of short-term noise during daylight hours associated with construction equipment operations. Long-term noise levels would increase slightly due to increased social activities associated with additional living quarters.

The "no action" alternative would have no impact on noise.

4.11 Health and Safety

The typical health and safety hazards associated with small construction sites using heavy-duty construction equipment would be present for the proposed action and the two alternative actions. Due to the

proximity of automobile and pedestrian traffic and housing, care would be taken to place barricades and flaggers on site during construction activities. All OSHA requirements would be met during construction activities. No long-term health and safety issues would be expected after the construction period.

The “no action” alternative would result in no health and safety concerns.

4.12 Transportation

The proposed action and alternative actions would result in additional vehicular and pedestrian traffic to the proposed locations and a slight decrease in traffic congestion on roads leading to Base entrances. Under the proposed action, the existing employee parking lot, across the street from the proposed dormitory site, would be used for dormitory parking. The new parking lot would accommodate approximately 330 vehicles, and would be used as the new employee parking lot. The two alternative actions would include construction of dormitory parking. The proposed and alternative actions would not have adverse impacts on traffic conditions on-Base.

The “no action” alternative would not result in any impacts to transportation at the Base.

4.13 Socioeconomic Conditions

The proposed action would provide proper living quarters for unaccompanied enlisted personnel, improve morale and productivity, while helping personnel to focus on the mission at Hill AFB.

Alternative II would improve housing conditions for unaccompanied enlisted personnel. However, the removal of the ball field would be the loss of a popular recreational facility near a populated area on Base. Additional funding would be required to construct a new ball field.

Alternative III would also improve housing conditions for unaccompanied enlisted personnel. The location of the alternative site is far from the work sites of enlisted personnel and would be inconvenient for personnel without vehicles.

The "no action" alternative would result in the continued substandard housing conditions due to high housing costs in the area surrounding Hill AFB. Without proper living quarters, personnel morale and productivity may be affected.

4.14 Environmental Justice

Environmental justice analyses for NEPA documents attempt to determine whether a proposed action disproportionately impacts minority and poor populations. However, because the proposed action and the two alternative actions do not result in significant adverse impacts, no such analysis was conducted.

4.15 Cumulative Impacts

No significant adverse cumulative impacts are expected from the proposed action and Alternative III. Short-term impacts due to construction activities would be minimized through implementing standard construction practices and safety precautions. There is a potential for minor decrease in surface water quality because of the added parking area. If necessary, stormwater run off from the parking lot could be diverted away from areas of concern. Long term impacts on vegetation and land use would not be significant as the proposed sites are open fields and existing structures would be affected. Increases in air emissions during and after the construction of the dormitory would not cause any violations of the Base’s Air Quality permit limits and should not cause any significant impact on the National Ambient Air Quality Standards or regional air quality.

Short-term and long-term cumulative impacts from Alternative II would be similar to the proposed action. Long-term cumulative impacts from Alternative II would also include funding and determining an appropriate location for construction of a new ball field.

With the “no action” alternative, there would be no adverse cumulative environmental impacts.

Section 5
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Debbie Hall, Hill AFB Cultural Resource Program Manager, Hill AFB, Utah. 801-775-5226. Discussed potential for encountering historical or archaeological sites.

Jayne Hirschi, Archeologist, Hill AFB, Utah. 801-775-6920. Discussed potential for encountering historical or archaeological sites.

Patti Garver, Staff Engineer, URS, Salt Lake City, Utah. 801-904-4050. Discussed air regulations as they apply to Hill AFB and Davis County and air emission during construction.

Paul Dowler, Construction Manager, URS, Salt Lake City, Utah. 801-904-4064. Discussed equipment needed to construct two, 4750-square-meter dormitories and associated parking.

Bert Whipple, Base Community Planner, Hill AFB, Utah. 801-777-2145. Discussed selection criteria for the proposed action.

Glenn Palmer, Environmental Management Compliance Division Air Quality Engineer, Hill AFB, Utah. 801-75-6918. Discussed air quality impact for the proposed action.

Lynn Hill, Environmental Management Compliance Division Chief, Hill AFB, Utah. 801-777-0288. Discussed air quality impact for the proposed action.

Shane Hirschi, Environmental Management Restoration Division Project Manager, Hill AFB, Utah. 801-775-3646. Discussed potential for encountering contaminated soil.

Becky Collier, Management Analyst, Plan and Program XP, Hill AFB, Utah. 801-777-5015. Discussed employment at Hill AFB.

Section 6
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APPENDIX A

Site Photographs

Figure A-1 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 1 - Looking North
Taken 10/13/00

Figure A-2 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 1 - Looking South
Taken 10/13/00

Figure A-3 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 1 - Looking East
Taken 10/13/00

Figure A-4 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 1 - Looking West
Taken 10/13/00

Figure A-5 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 2 - Looking East
Taken 10/13/00

Figure A-6 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 2 - Looking West
Taken 10/13/00

Figure A-7 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 2 - Looking South
Taken 10/13/00

Figure A-8 Site of Alternative I (Proposed Action)
Proposed Dormitory Site for Building 2 - Looking North
Taken 10/13/00

Figure A-9 Site of Alternative I (Proposed Action)
Proposed Site for the Parking Lot - Looking West
Taken 10/31/00

Figure A-10 Site of Alternative I (Proposed Action)
Proposed Site for the Parking Lot - Looking East
Taken 10/31/00

Figure A-11 Site of Alternative II
Proposed Dormitory and Parking Lot Site, looking Southeast
Taken 11/13/00

Figure A-12 Site of Alternative II
Proposed Dormitory and Parking Lot Site, looking Southwest
Taken 11/13/00

Figure A-13 Site of Alternative II
Proposed Dormitory and Parking Lot Site, looking West
Taken 11/13/00

Figure A-14 Site of Alternative III
Proposed Dormitory and Parking Lot Site, looking Southeast
Taken 11/13/00

Figure A-15 Site of Alternative III
Proposed Dormitory and Parking Lot Site, looking Southwest
Taken 11/13/00

Figure A-16 Site of Alternative III
Proposed Dormitory and Parking Lot Site, looking East
Taken 11/13/00

APPENDIX B

Conformity Screening Analysis

Construction Equipment Emissions

Assume the following for construction:
each piece of equipment operates an average of 50 hours per week
2 Track Loaders (16 weeks)
2 Wheeled Loaders (16 weeks)
2 Dump Trucks (16 weeks)
1 50 Ton Crane (16 weeks)
1 Roller (16 weeks)
1 Wheeled Backhoe (24 weeks)
1 Bulldozer (16 weeks)
4 Scissor Lifts (24 weeks)
4 Diesel Generators (24 weeks)

	PM10	SOx	NOx	VOC	CO
			(tons/yr)		
Wheeled Loader Exhaust	0.08	0.15	1.51	0.23	0.46
Track Loader Exhaust	0.05	0.11	1.01	0.12	0.28
Dump Truck Exhaust	0.11	0.36	3.33	0.24	1.44
Crane Exhaust	0.03	0.06	0.68	0.07	0.27
Roller Exhaust	0.01	0.03	0.34	0.03	0.12
Backhoe Exhaust	0.04	0.05	0.08	0.13	2.15
Bulldozing	0.04	0.14	1.67	0.08	0.70
Scissor Lift Exhaust	0.18	0.34	4.06	0.44	1.62
Generators	3.17	2.95	44.64	3.61	9.62
TOTAL	**3.71**	**4.19**	**57.31**	**4.96**	**16.65**

Wheeled Loader Exhaust						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Front End Loader	1600	TSP	0.172	TSP	0.172	0.14
		PM10	0.0946	PM10	0.0946	0.08
		SOx	0.182	SOx	0.182	0.15
		NOx	1.89	NOx	1.89	1.51
		CO	0.572	CO	0.572	0.46
		VOC	0.291	VOC	0.291	0.23

AP-42 Volume 2, Chapter II-7, wheeled loader
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.

* based on 2 loaders each operating 50 hours per week for 16 weeks

Track Loader Exhaust						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Front End Loader	1600	TSP	0.112	TSP	0.112	0.09
		PM10	0.0616	PM10	0.0616	0.05
		SOx	0.137	SOx	0.137	0.11
		NOx	1.26	NOx	1.26	1.01
		CO	0.346	CO	0.346	0.28
		VOC	0.148	VOC	0.148	0.12

AP-42 Volume 2, Chapter II-7, track-type loader
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.

* based on 2 loaders each operating 50 hours per week for 16 weeks

Dump Truck Exhaust						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Dump Trucks	1600	TSP	0.256	TSP	0.256	0.20
		PM10	0.1408	PM10	0.1408	0.11
		SOx	0.454	SOx	0.454	0.36
		NOx	4.166	NOx	4.166	3.33
		CO	1.794	CO	1.794	1.44
		VOC	0.304	VOC	0.304	0.24

AP-42 Volume 2, Chapter II-7, off-highway truck
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.

* based on 2 trucks each operating 50 hours per week for 16 weeks

Crane Exhaust						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Crane	800	TSP	0.139	TSP	0.139	0.06
		PM10	0.07645	PM10	0.07645	0.03
		SOx	0.143	SOx	0.143	0.06
		NOx	1.691	NOx	1.691	0.68
		CO	0.675	CO	0.675	0.27
		VOC	0.183	VOC	0.183	0.07

AP-42 Volume 2, Chapter II-7, miscellaneous
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.

* based on 1 crane operating 50 hours per week for 16 weeks

Roller Exhaust						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Roller	800	TSP	0.05	TSP	0.05	0.02
		PM10	0.0275	PM10	0.0275	0.01
		SOx	0.067	SOx	0.067	0.03
		NOx	0.862	NOx	0.862	0.34
		CO	0.304	CO	0.304	0.12
		VOC	0.083	VOC	0.083	0.03

AP-42 Volume 2, Chapter II-7, roller
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.

* based on 1 roller operating 50 hours per week for 16 weeks

Backhoe Exhaust						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Backhoe	1200	TSP	0.136	TSP	0.136	0.08
		PM10	0.0748	PM10	0.0748	0.04
		SOx	0.09	SOx	0.09	0.05
		NOx	0.1269	NOx	0.1269	0.08
		CO	3.59	CO	3.59	2.15
		VOC	0.218	VOC	0.218	0.13

AP-42 Volume 2, Chapter II-7, wheeled tractor
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.

* based on 1 wheeled backhoe operating 50 hours per week for 24 weeks

Bulldozing						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Bulldozer	800	PM10	0.09075	PM10	0.09075	0.04
		SOx	0.348	SOx	0.348	0.14
		NOx	4.166	NOx	4.166	1.67
		CO	1.749	CO	1.749	0.70
		VOC	0.192	VOC	0.192	0.08

AP-42 Volume 2, Chapter II-7, wheeled dozer
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.
* based on 1 bulldozer operating 50 hours per week for 16 weeks

Scissor Lift Exhaust						
		E.F.		Emissions		
	hr/yr*	pollutant	lb/hr	pollutant	lb/hr	ton/yr
Scissor Lifts	4800	TSP	0.139	TSP	0.139	0.33
		PM10	0.07645	PM10	0.07645	0.18
		SOx	0.143	SOx	0.143	0.34
		NOx	1.691	NOx	1.691	4.06
		CO	0.675	CO	0.675	1.62
		VOC	0.183	VOC	0.183	0.44

AP-42 Volume 2, Chapter II-7, miscellaneous
Assume PM10 factor is 55% of TSP factor listed in AP-42 based on Table 1.3-7 for distillate combustion.

* based on 4 scissor lifts operating 50 hours per week for 24 weeks

Generators								
				Emission Factors		Emissions		
				lb/hp-hr			lb/hr	ton/yr
Source	hp	hr/yr*	hp-hr/yr	PM10	2.20E-03	PM10	10.56	3.17
Generators	600	4800	2,880,000	SO2	2.05E-03	SO2	9.84	2.95
				NOx	0.031	NOx	148.80	44.64
				VOC	2.51E-03	VOC	12.05	3.61
				CO	6.68E-03	CO	32.06	9.62

AP-42 Fifth Edition, Section 3.3 Gasoline and Diesel Industrial Engines,
Table 3.3-1 (<600 hp diesel engines, <250 hp gasoline), 10/96 version

* based on 4 generators each operating 50 hours per week for 24 weeks
Assumed a 600 horsepower generator.